BACTERIOLOGY.[1]

A NEW ATLAS OF BACTERIOLOGY.—An important announcement is just received of a new photomicrographic "*Atlas der Bacterienkunde,*" shortly to be issued by Doctors Fraenkel and Pfeiffer, of the University of Berlin. The names of the authors and their connection with Koch's laboratory make it probable that the undertaking will be of great service and will supply to working bacteriologists a convenient standard of reference. The plan which will be followed in issuing the "Atlas" is, to give "a systematic representation of the most important bacteriological objects." Accordingly, there will be given "first, the bacteria in general, in the various stages of their life history, and, then, in particular, the microörganisms of the principal infectious diseases of men and the lower animals."

The figures will be accompanied by an explanatory text; and extreme care is promised to secure unusual mechanical excellence. The "Atlas" will appear in from 12–15 parts, each containing about 10 photographs. The first is promised in January, 1889, and the others at intervals of about six weeks. The number of copies is to be limited, and the cost, per part, is to be 4 marks. The "Atlas" may be had of Hirschwald, in Berlin.

THE BACTERIOLOGY OF NATURAL AND OF ARTIFICIAL ICE.—One of the latest numbers of the *Centralblatt für Bakteriologie* (IV., 22, 673) contains a summary of a recent paper by Heyroth, in which the latter gives the results of some three years of investigation of the purity of ice, and brings the subject, so far as it has been pursued by himself and others, up to 1888.

The usual "plate" cultures were employed, and the conclusions finally arrived at are :

1. Water on freezing into ice always excretes from itself, so to speak, a portion of its chemical and organic contents.

2. Certain organic substances are less affected than are inorganic salts.

3. Above all, the microörganisms, and among these not merely the ordinary harmless water bacteria, but also disease-producing forms, are able to withstand the process of freezing as it occurs in nature, and even a protracted exposure to the frozen condition, without loss of vegetative capacity or enfeeblement of their virulence.

The investigations of artificial ice did not make for it as favorable a showing—or, at least, not in all cases. It appears that the water

[1] This Department is edited by Prof. Wm. T. Sedgwick, of the Mass. Institute of Technology, Boston, Mass., to whom brief communications, books for review, etc., should be sent.

employed is not always as unobjectionable as ordinary drinking water, and also that the water employed is sometimes rendered more or less impure by the careless use of the process it undergoes. Accordingly, figures as high as 528, 960, 1323, and even 1610 bacteria per cc. were found, although, on the other hand, specimens were found which were absolutely sterile.

The following conclusions were reached, viz. :

1. That the ice used for preservative purposes and for the cooling of drinks ought, no matter how prepared, to be made of such water only as has already been found to be pure, and at least as good as that adapted for a public water supply.

2. For the sake of the continuous protection of its composition periodical and repeated examinations should be made of the ice supply and its sources.

DISSECTION OF THE DOG AS A BASIS FOR THE STUDY OF PHYSIOLOGY.—A handsome and conveniently arranged guide to so much of anatomy as may be learned from a fairly thorough dissection of the dog has been prepared by W. H. Howell, of Johns Hopkins University, and published by Henry Holt & Co., of New York. The work is avowedly done by a physiologist for physiological purposes ; and in our opinion it has been done wisely and with discrimination. The worker who is endeavoring to get broad ideas of the position and relation of organs and parts as mechanisms, should never be buried under anatomical minutiæ to him of secondary importance, or confused beforehand by being told minutely what to do, or worse yet, what to see. By giving undue attention to his guide he is distracted from the objects before him, and sooner or later is in danger of losing both the interest and pleasure of discovery and, above all, the final reward of increased power and independence.

The book is not too large, possesses the great merits of simplicity and brevity, and ought to prove a real help to classes of a certain grade, in physiology.—*W. T. Sedgwick.*

ZOOLOGY.

THE ANATOMY OF PROTOPTERUS.—Prof. W. N. Parker communicates to *Nature* (XXXIX., pp. 19–21) a preliminary note on the anatomy and physiology of *Protopterus annectans*, of which abundant material has recently been received at Freiburg. The whole epidermis is packed with goblet cells, and besides contains here and there multicellular glands like those of Amphibia. The normal epidermal cells are covered with a cuticular cap. The muscles of the